

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PMCYP06360

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Cyperus schweinitzii*
COMMON NAME: Schweinitz's Flatsedge
SYNONYMS: *Cyperus alterniflorus*, *Mariscus schweinitzii*
FAMILY: Cyperaceae

AUTHOR, PLACE OF PUBLICATION: Torrey, John. Ann. Lyceum Nat. Hist. New York 3: 276. 1936.

TYPE LOCALITY: Canada: Manitoba: Winnipeg Lake

TYPE SPECIMEN: Isotypes: PH 25783 (Acc. No. 01028014) and PH 09257 (Acc. No. 01067334) filed under *C. alterniflorus*. Say s.n. or #336 (?from JSTOR). 18-19 Aug 1823.

TAXONOMIC UNIQUENESS: There are 104 species of *Cyperus* found in the U.S., including Hawaii. There are an additional 21 varieties. Of this total, 25 *Cyperus* species have been found in Arizona, and four of these are found only in Arizona.

DESCRIPTION: Herbs, perennial, rhizomatous. Culms trigonous, (10-)20-50 cm × (0.6-)1-2 mm, glabrous or more often scabridulous, either in distal 1/2 or over entire length; basal sheaths, 1-3, light brown, 1-4 cm, papery. Leaves flat to V-shaped, (2-)20-35 cm × 2-6 mm, margins and keel minutely scabridulous; proximal leaves bladeless. Inflorescences: spikes ± umbellate to slenderly (infrequently broadly) ovoid, 10-25 × 7-16 mm; rays 3-5, 1.5-8(-15) cm; bracts 3-7, erect (or declined at most 25-30° from vertical), (2.5-)8-20(-25) cm × (0.5-)1.5-6 mm; rachilla ± deciduous, wingless. Spikelets (1-)5-10(-20), oblong to linear-oblong, quadrangular, 7-10(-18) × (2.8-)3.2-4(-4.5) mm; floral scales deciduous, (1-)5-10(-14), spreading, laterally stramineous or dull whitish, sometimes also red-spotted, medially green, laterally 2-3-ribbed, medially 3-ribbed, broadly ovate to oblong-ovate, (2.3-)2.8-3.2 × (2-)2.4-3.2 mm, apex broadly rounded, often clear-erose, cusp 0.1-0.4 mm in proximal scales, 0.3-1 mm in distal scales. Flowers: anthers 0.8-1.4 mm; styles 0.1-0.3 mm; stigmas 1.5-3 mm. Achenes light to dark brown or nearly black, broadly ellipsoid, infrequently obovoid, 2-2.4 × 0.9-1.4 mm, base cuneate to ± stipelike, apex obtuse to broadly rounded, surfaces papillose.

AIDS TO IDENTIFICATION: *C. schweinitzii* is the only perennial *Cyperus* species, and the only one occurring in upland habitat.

ILLUSTRATIONS:

Line Drawing: <http://eol.org/pages/1121529/media>.

Herbarium Mounts: <http://www.tropicos.org/Name/9900340>.

Photos: <http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=CYP SCH>.

TOTAL RANGE: In Canada, from Alberta east to Ontario (considered exotic in Quebec). In the US, from New York and Pennsylvania southwest to Texas, including Kentucky and Arkansas; from Montana and Idaho south to Arizona. Introduced, but not naturalized in Massachusetts and Washington (State). Also Coahuila, Mexico.

RANGE WITHIN ARIZONA: The dozen collections of *C. schweinitzii* in Arizona are scattered throughout the state, notably in the northern and eastern halves. Most collections have been made in Coconino County (5), followed by Apache (2), Santa Cruz (2), Cochise and Mohave (1 each). Another collection that was not mappable was made west of Sedona.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Grass-like perennial, 10-40 cm tall.

PHENOLOGY: Flowers and fruits were reported from Arizona collections from early August to mid-September.

BIOLOGY: *C. schweinitzii* is a facultative, not obligatory wetland species. The seeds apparently can persist in the ground for many years and remain viable.

HABITAT: Riverbanks, sand bars, lakeshores, sand dunes, sandy openings in woods. Only *Cyperus* species found in upland habitats. *C. schweinitzii* shows an affinity for disturbed sites, and can re-colonize a site quickly after some disturbance creates a favorable habitat.

ELEVATION: Although range-wide elevation was reported as 0 – 3300 feet (0-1000m), collections made in Arizona range from 4100 – 7600 feet (1250-2320m).

EXPOSURE: Full sun.

SUBSTRATE: Sandy, dry, including blowsands and sandstone depressions. Other substrates reported from Arizona collection sites were a clay soil, a thin rocky soil, and a 41-50% talus slope with a SW aspect.

PLANT COMMUNITY: Collections in Arizona have been made from three distinct plant communities: Pinyon-Juniper with sagebrush (*Artemisia*), snakeweed (*Gutierrezia*) and rabbitbush (*Chrysothamnus*) and *Yucca baccata*, *Quercus turbinella*; mixed conifer woodland, including *Picea pungens*, *Pteridium aquilinum*, *Populus tremuloides*, *Q. gambelii*,

and *Pseudostuga menziesii*; and a mesquite-oak grassland. Other species recorded at collection sites include: *Hedeoma drummondii*, *Bahia dissecta*, *Poa*, *Bromus tectorum*, *Bouteloua gracilis*, *Helianthella microcephala*, *Heterotheca villosa*, *Opuntia polyacantha*. It seems that the sandy habitat preference is more of a controlling factor than the plant community.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. Most of the collections are single records, a few record visits in subsequent years. One site noted the plant was "occasional."

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS: None specified and there are no known management specific initiatives for this species. However, it was noted that activities which create exposed sandy soils (such as burning or clearing) can benefit the plant. The species also seems to be susceptible to over-shading if woody species develop during subsequent successional stages and overgrow *C. schweinitzii*. Soil compaction is detrimental.

PROTECTIVE MEASURES TAKEN: None.

SUGGESTED PROJECTS: Alert field botanists to be on the lookout for this species and note if additional collections and distributions can be identified. Consider re-visiting some of the previously collected sites to determine if the plant is still extant. Any collection should include some estimate of population size and extent.

LAND MANAGEMENT/OWNERSHIP: Most of the collections were made on BLM lands (5). Three were from US Forest Service lands (Coconino and Coronado NF), two were on USNPS lands (Canyon de Chelly NM and Chiricahua NM), and one collection was made on private land.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Flora of North America, accessed 7/09/2014,
http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242357712.

Lady Bird Johnson Wildlife Flower Center, Univ. of Texas at Austin, accessed 7/10/2014, http://www.wildflower.org/plants/result.php?id_plant=CYSC3.

New York Natural Heritage Program, accessed 7/10/2014, <http://acris.nynhp.org/guide.php?id=9550&part=1>.

NatureServe: Online Encyclopedia of Life, accessed 7/09/2014, http://explorer.natureserve.org/servlet/NatureServe?loadTemplate=tabular_report.wmt&paging=home&save=all&sourceTemplate=reviewMiddle.wmt.

Tropicos, accessed 7/9/2014, <http://www.tropicos.org/Name/9900340>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: *C. schweinitzii* was named after Lewis David von Schweinitz (1780-1834), a prominent botanist considered by some to be the “Father of North American Mycology” (the study of fungi).

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